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ABSTRACT - Two new species of Inuleae are described from the Andes of northern Peru and southern Ecuador: Gamochaeta monticola Dillon & Sagást. and Loricaria ollgaardii Dillon & Sagást., and L. thyrsoidea (Cuatr.) Dillon & Sagást. is elevated to species status.

Study of the flora of the Andes of northern Peru and southern Ecuador continues to yield many new species. In preparation for an upcoming treatment of the Inuleae (Asteraceae) for the Flora of Peru, the following species descriptions and status change are made.

Gamochaeta monticola Dillon & Sagást., sp. nov. Fig. 1.

Herbae caespitosae perennes; caules erecti simplices vel ramosi, usque ad 6 cm alti. Folia basalia sessilia, rosulata, oblanceolata, 1-4 cm longa, 4-7 mm lata, bicoloria, basi attenuata, apice acuta vel rotundata, inferne incano-tomentosa, superne lanuginosa, margine integrae, marcescentia; folia caulina alterna, sessilia, gradatim minoria. Capitulescentiae spiciformes. Capitula disciformia, 3.5-4 mm alta, 2-2.5 mm lata; phyllaria ca. 22, 3-4-seriata, externa ovata, ca. 2.2 mm longa, ca. 1.2 mm lata, intima oblongo-lineararia, 2.9-3.2 mm longa, 0.4-0.7 mm lata. Flores marginales feminei, 42-45; corollae filiformes, ca. 2 mm longae. Disci flores hermaphroditi 2-3; corollae anguste tubulosae, ca. 2 mm longae. Achaenia oblonga, 0.5-0.7 mm longa, glabra; pappi setae ca. 2.5 mm longae, basi connatae, albae.

TYPE: PERU. Dept. La Libertad. Prov. Santiago de Chuco: entre Chota y Shorey, ladera, 3250 m, 15 Nov 1983, A. Sagástegui A. et al. 11100 (HUT, holotype; F, MO, isotypes).

Cespitose, perennial herbs; stems simple or branched, 1-6 cm tall. Basal leaves densely rosulate, oblanceolate, 1-4 cm long, 4-7 mm wide, sessile, basally attenuate to a pseudo-petiole, apically acute to rounded, mucronate, discolorous, lower surface incanose-tomentose, upper surface lanose, the margins entire, the cauline leaves alternate, gradually smaller. Capitulescences spiciform. Capitula disciform, 3.5-4 mm high, 2-2.5 mm wide; involucre campanulate; phyllaries ca. 22, 3-4-seriate, imbricate, scarious, stramineous, the outer ovate, ca. 2.2 mm long, ca. 1.2 mm wide, dorsally lanate, apically acuminate, the inner oblong-linear, 2.9-3.2 mm long, 0.4-0.7 mm wide, glabrous, apically acute; marginal florets pistillate, 42-45, the corollas filiform, ca. 2 mm long; disc florets hermaphroditic, 2-3, the corollas narrowly tubular, ca. 2 mm long, the style branches truncate, penicillate. Achenes oblong, 0.5-0.7 mm long, brown, glabrous; pappus bristles ca. 2.5 mm long, fused basally, white.

DISTRIBUTION: Infrequent in open areas within "jalca" formations of northern Peru (Departments of Ancash, Cajamarca and La Libertad, 3100-4870 m).

Gamochaeta monticola is a distinctive member of the genus, possessing rosulate basal leaves and erect, spicate capitulescences. It most closely resembles G. humilis Wedd. of southern Peru and northern Bolivia; however, the latter species normally has a more branched, decumbent habit, smaller, spatulate leaves, and a laxly spiciform or terminally glomerulate capitulescence.

Additional material examined: PERU. Dept. Ancash. Prov. Carhuaz: Huascarán National Park, Quebrada Ishinca, 4380-4500 m, Smith et al. 9486 (F, MO, USM). Prov. Huaylas: Huascarán National Park, Quebrada Alpamayo, 4350-4500 m, Smith et al. 9801 (USM). Prov. Yungay: Huascarán National Park, Quebrada Ancosh, Smith & Goodwin 8886 (MO, USM). Dept. Cajamarca. Prov. Celendín: ca. 57 km NE of Cajamarca along road to Celendín, ca. 3650 m, 4 Jan 1979, Dillon & Turner 1614 (F); Sendamal, 3100 m, 19 Aug 1984, Sagástegui, Mostacero, & Leiva 12228 (F, HUT, MO). Prov. San Miguel: Taulis Alto, jalca, ladera, 3100 m, 20 Jun 1980, Sagástegui et al. 9548 (F, HUT, MO). Dept. La Libertad. Prov. Otuzco: Motil-Shorey, 3500 m, 23 Nov 1964, Sagástegui & Fernández 4914 (HUT, US); Cerro Ragache, Salpo, 3500 m, 23 May 1984, Sagástegui, Diestra, & Leiva 11627 (HUT, MO).

Loricaria ollgaardii Dillon & Sagást., sp. nov. Fig. 2.

Frutices dioicii ramosi ca. 50 cm usque alti; caules foliacei, complanati, 1.5-2 mm alti. Folia disticha, linearia, 3-4 mm longa, 0.5-0.8 lata, ecarinata, viridia vel brunneo-viridia. Capitulescentiae solitares, terminales. Capitula

feminea 4-5 mm alta, ca. 2 mm lata; phyllaria 8-11, ca. 3-seriata, extima ovata, 2-3 mm longa, 1-1.5 mm lata; receptacula epaleacea. Flores pistillati, 5-8; corollae filiformae, ca. 3 mm longae. Achaenia ca. 1 mm longa, glabra; pappi setae ca. 3.5 mm longae. Specimina masculina: non visa.

TYPE: ECUADOR. Prov. Loja: Amaluza-Palanda, western slope, near the pass (at Laguna Areviatadas Pilares), 22 Sep 1976, 3350-3450 m, B. Øllgaard & H. Balslev 9687 (F, holotype; MO, NY, isotypes).

Dioecious shrubs to 50 cm tall, much-branched; stems foliuous, moderately compressed, 1.5-2 mm wide. Leaves distichous, imbricate, sessile, linear in lateral view, 3-4 mm long, 0.5-0.8 mm wide, dorsally ecarinate, the outer surface glabrous, green to brownish-green, the inner surface lanate. Capitulescences solitary, terminal on branchlets. Feminine capitula sessile, 4-5 mm high, ca. 2 mm wide; involucre cylindrical; phyllaries 8-11, ca. 3-seriate, imbricate, scarious, the outer ovate, 2-3 mm long, 1-1.5 mm wide, apically acute to obtuse, lacerate, the inner oblanceolate to oblong, 3-4 mm long, 0.5-1 mm wide, apically acute to obtuse, lacerate; receptacles epaleaceous; florets 5-8, the corollas filiform, ca. 3 mm long, the style branches exerted. Achenes ca. 1 mm long (immature), 4-angled, glabrous, brown; pappus bristles apically slender, acute, ca. 3.5 mm long. (Masculine specimens not seen).

DISTRIBUTION: Known only from the type locality. According to the label data, this species occurs in grass páramo and associated bogs.

Loricaria ollgaardii possesses epaleaceous receptacles and terminal capitula on lateral branchlets. These characters place it in section Thyopsis Cuatr. (Cuatrecasas, 1954). Its nearest relatives appear to be L. thuyoides var. microphylla (Wedd.) Cuatr. (Ecuador) and L. pauciflora Cuatr. (Colombia); however, L. ollgaardii can be separated from these species by the characters presented in Table 1.

It is a pleasure to name this species for Dr. Benjamin Øllgaard of the Botanical Institute, University of Aarhus, Denmark. Dr. Øllgaard is a long time worker in "Flora of Ecuador" project and researcher in the Lycopodiaceae, a plant group that Loricaria superficially resembles.

Table 1. Morphological comparison of Loricaria ollgaardii and its closest relatives.

	<u>L. ollgaardii</u>	<u>L. thuyoides</u> var. <u>microphylla</u>	<u>L. pauciflora</u>
Leaves	3-4 mm long	3-6 mm long	5-6 mm long
	0.5-0.8 mm wide	0.7-1 mm wide	ca. 1 mm wide
	ecarinate	carinate	carinate
Capitula	terminal	axillary	axillary
Phyllaries	8-11	14-16	4-8
Feminine florets	5-7	13-14	ca. 4

Loricaria thyrsoidea (Cuatr.) Dillon & Sagást., comb. nov.

Loricaria thuyoides (Lam.) Schultz-Bip. var. thyrsoidea

Cuatr., Feddes Repert. Sp. Nov. Regni Veg. 56: 170. 1954.

TYPE: Peru, Dept. Lima, Prov. Canta, near Antaicocha, Cerro Colorado, E of Canta, 4000-4100 m, 20 Jun 1925, F. W. Pennell 14685 (F, holotype; US, isotype).

This taxon's thyrsoid capitulescences are unique for Loricaria and quite unlike all other varieties of L. thuyoides. Given current species boundaries, we feel that this and other differences make this taxon worthy of specific status.

REFERENCE

- Cuatrecasas, J. 1954. Synopsis der Gattung Loricaria Wedd. Feddes Repert. Sp. Nov. Regni Veg. 56: 149-172.

EXPLANATION OF FIGURES

Fig. 1. Gamochaeta monticola. A, habit; B, leaf (underside); C, capitulum; D, outer phyllary; E, inner phyllary; F, pistillate floret; G, hermaphroditic floret; H, style branches of hermaphroditic florets. (Drawn from Sagástegui et al. 11100, HUT).

Fig. 2. Loricaria ollgaardii. A, apical portion of a flowering branch; B, lateral view of leaf; C, feminine capitulum; D, outer phyllary; E, inner phyllary; F, pistillate floret. (Drawn from Øllgaard & Balskev 9687, F).

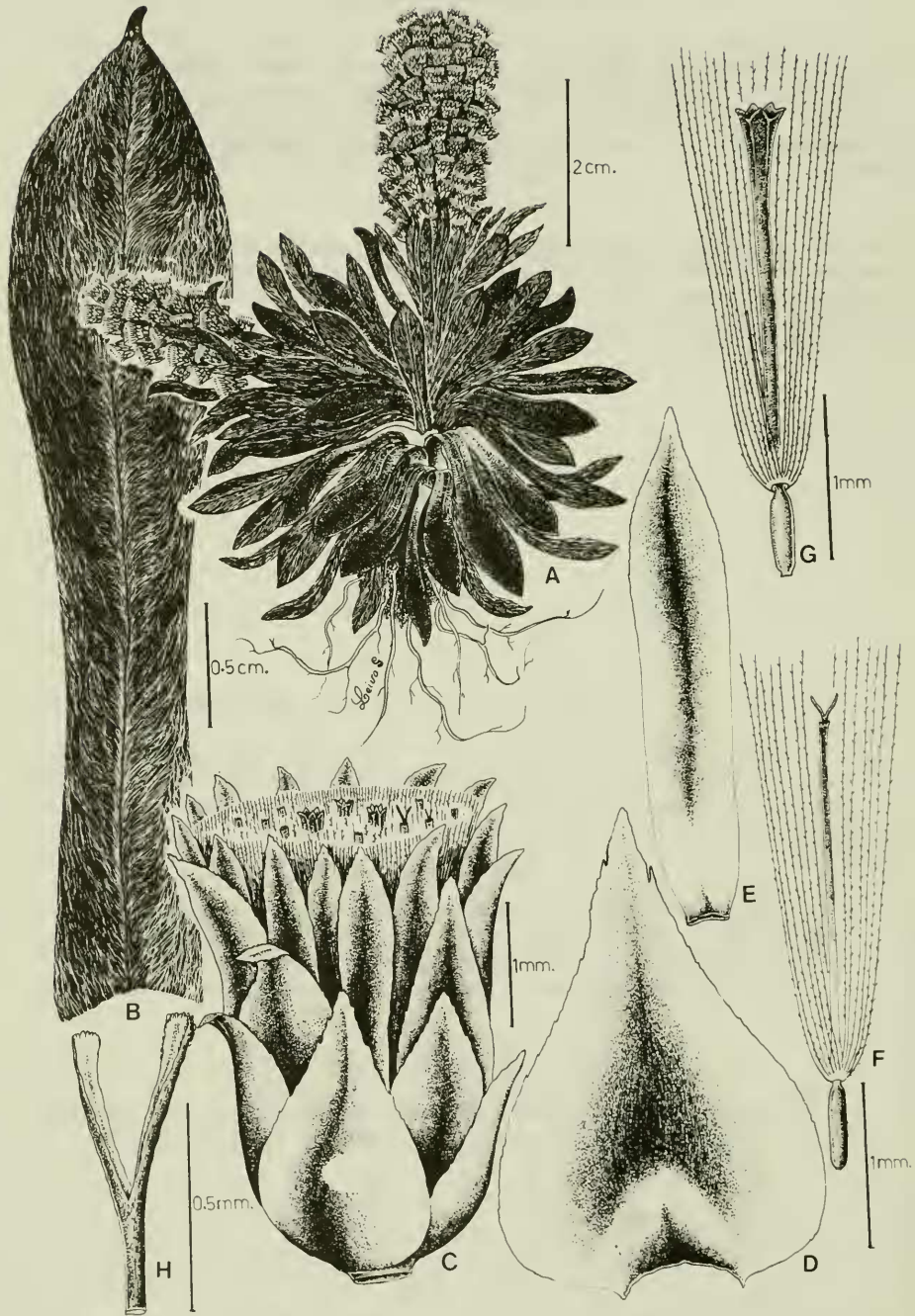


FIG. 1

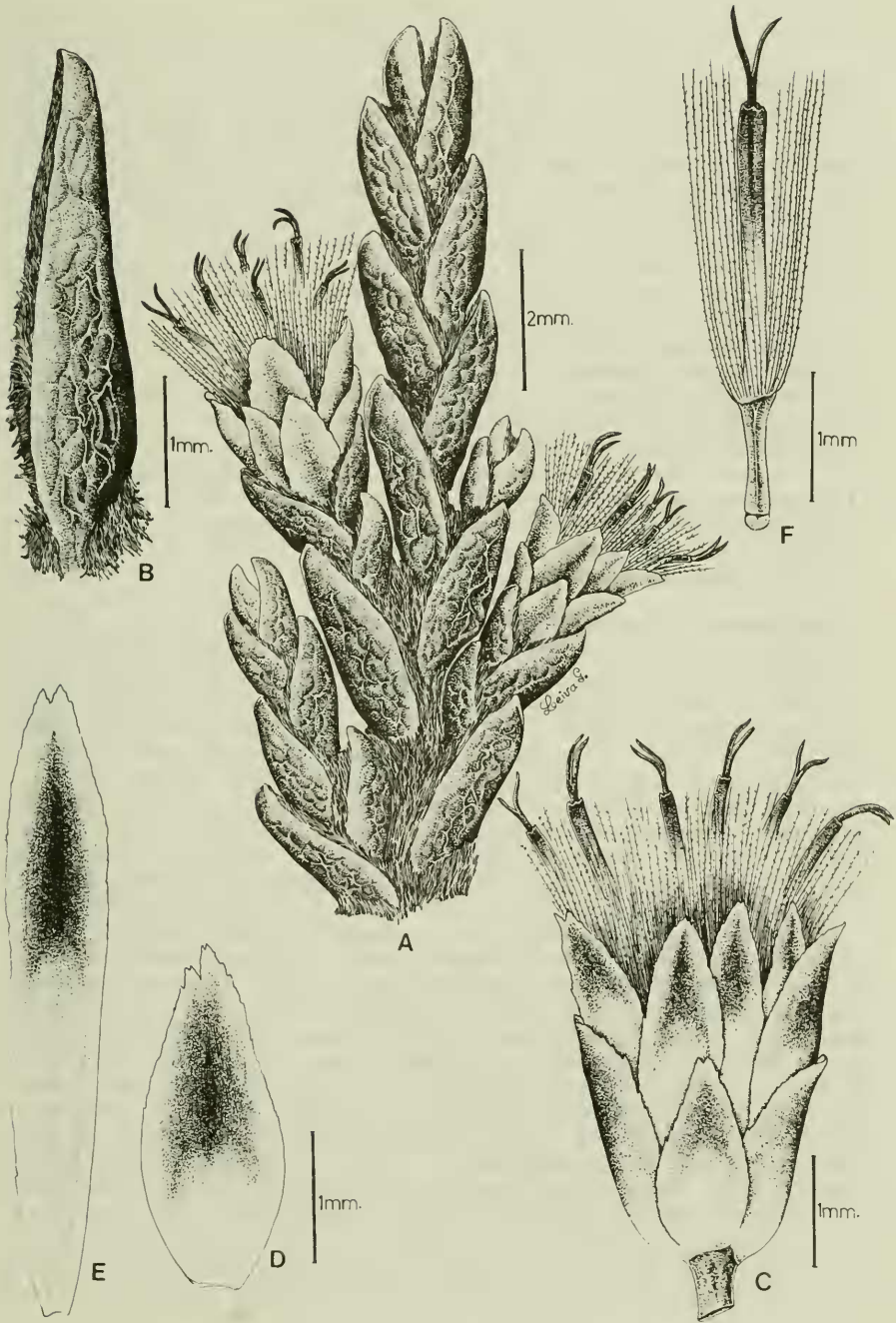


FIG. 2